

LISTING OF CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for processing fibre channel frames, comprising:

5 providing a plurality of virtual lanes, each of the virtual lanes configured to transmit one or more frames between a source and a destination;

receiving a frame at a receive port of a fibre channel switch element;

 assigning a virtual lane for [[a]] the frame based on a hop count for the frame;

 determining if the assigned virtual lane has available credit; and

10 transmitting the frame using the assigned virtual lane, if credit is available.

2. (Previously Presented) The method of Claim 1, further comprising:

 incrementing a counter value for counting available credit for the assigned virtual lane.

 if the frame is sent using the assigned virtual lane.

3. (Previously Presented) The method of Claim 1, where the assigned virtual lane has a

15 programmed maximum credit count.

4. (Previously Presented) The method of Claim 1, where if all credit for the assigned virtual lane has been used, then a next virtual lane is selected with non-zero credit.

5. (Currently Amended) A method for processing fibre channel frames using a fibre channel fabric switch element having a receive port and a transmit port, comprising:

20 providing a plurality of virtual lanes, each of the virtual lanes configured to transmit one or more frames between a source and a destination;

 assigning a virtual lane in the receive port based on [[the]] a hop count for the frame;

 and

 sending a primitive to a transmit port with the assigned virtual lane.

6. (Currently Amended) The method of Claim 5, further comprising:
assigning a virtual lane on the transmit port based on the hop count of the frame; and
determining if credit is available for the assigned virtual lane to send the frame using the
assigned virtual lane.

7. (Previously Presented) The method of Claim 6, where a credit count for the assigned
virtual lane is maintained by a counter and the assigned virtual lane has a maximum credit
count.

8. (Previously Presented) The method of Claim 5, where a counter value is decremented
after the primitive is received by the transmit port.

9. (Previously Presented) The method of Claim 5, where the hop count of the frame is de-
termined using D_ID of the frame.

10. (Previously Presented) The method of Claim 6, where the assigned virtual lane value at
the transmit port is less than the assigned virtual lane in the receive port.

11. (Currently Amended) A system for processing fibre channel frames, comprising:

a fibre channel fabric switch element including a receive port for receiving fibre channel
frames,

a plurality of virtual lanes, each of the plurality of virtual lanes configured to transmit one
or more frames between a source and a destination, which

includes

a look up table to assign a virtual lane to a frame based on a hop count of the frame; and
a transmit port that receives a primitive with the assigned virtual lane ~~by~~ from the re-
ceive port and the transmit port includes a credit control module that determines if ~~an~~ the as-
signed virtual lane can transmit a frame based on available credit.

12. (Previously Presented) The system of Claim 11, where the credit control module increments a credit count for an assigned virtual lane if a frame has been transmitted from the assigned virtual lane.

13. (Currently Amended) The system of Claim 11, where the credit control module decrements a credit count for ~~an~~ the assigned virtual lane if a VC_RDY is received.

14. (Previously Presented) The system of Claim 11, where the credit control module maintains a maximum count for every virtual lane used for transmitting frames.

15. (Previously Presented) The system of Claim 12, where the credit control module uses an increment selector to increment credit count.

16. (Previously Presented) The system of Claim 13, where the credit control module uses a decrement selector to decrease the credit count.

17. (Previously Presented) The system of Claim 11, where the credit control module uses compare logic to compare available credit for an assigned virtual lane at any given time with a programmed maximum credit value for the assigned virtual lane.

18. (Currently Amended) A fibre channel fabric switch element for processing fibre channel frames, comprising:

a receive port for receiving fibre channel frames,

a plurality of virtual lanes, each of the plurality of virtual lanes configured to transmit one or more frames between a source and a destination, each of the plurality of virtual

lanes assigned based on a hop count of a frame received at the receive port;

~~which includes~~ a look up table to assign a virtual lane to the frame based on ~~a~~ the hop count of the frame; and

a transmit port that receives a primitive with the assigned virtual lane ~~by~~ from the receive port and the transmit port includes a credit control module that determines if ~~an~~ the assigned virtual lane can transmit a frame based on available credit.

19. (Currently Amended) The switch element of Claim 18, where the credit control module increments a credit count for ~~an~~ the assigned virtual lane if a frame has been transmitted from the assigned virtual lane.

20. (Currently Amended) The switch element of Claim 18, where the credit control module decrements a credit count for ~~an~~ the assigned virtual lane if a VC_RDY is received.

21. (Previously Presented) The switch element of Claim 18, where the credit control module maintains a maximum count for every virtual lane used for transmitting frames.

22. (Previously Presented) The switch element of Claim 19, where the credit control module uses an increment selector to increment credit count.

23. (Previously Presented) The switch element of Claim 20, where the credit control module uses a decrement selector to decrease the credit count.

24. (Currently Amended) The switch element of Claim 18, where the credit control module uses compare logic to compare available credit for ~~an~~ the assigned virtual lane at any given time with a programmed maximum credit value for the assigned virtual lane.

25. (Currently Amended) A system for processing fibre channel frames, comprising:
means for assigning dedicated virtual lanes for transmitting frames, each of the virtual lanes configured to transmit one or more frames between a source and a destination, where ~~the a~~ a virtual lanes ~~are is~~ assigned to a frame based on a hop count of a the frame;

means for maintaining a credit count for each virtual lane used for transmitting frames;
and

means for determining if credit is available for a particular virtual lane that is assigned to the frame based on the hop count of the frame, to transmit the frame using the assigned virtual lane.

26. (Previously Presented) The system of Claim 25, further comprising:

5 means for maintaining a maximum credit count for each virtual lane; and
means for comparing the maximum credit count with the credit available for a virtual lane at any given time.

27. (Currently Amended) A fibre channel fabric switch element for processing fibre channel frames, comprising:

10 means for assigning dedicated virtual lanes for transmitting frames, each of the virtual lanes configured to transmit one or more frames between a source and a destination, each where the virtual lanes are assigned to a frame based on a hop count of a the frame;

means for maintaining a credit count for each virtual lane used for transmitting frames;
and

15 means for determining if credit is available for a particular virtual lane that is assigned to the frame based on the hop count of the frame, to transmit the frame using the assigned virtual lane.

28. (Previously Presented) The switch element of Claim 27, further comprising:

means for maintaining a maximum credit count for each virtual lane; and
20 means for comparing the maximum credit count with the credit available for a virtual lane at any given time.